



AN ISO 9001 : 2008 COMPANY & NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005

4, 7TH MAIN MALLESWARAM, BANGALORE -3

Certificate No.: TC-5548

CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2017-12-18-01 Date: 20-12-17

Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.

Address : Byatarayanapura Sub division, BBMP, Bangalore.

Project Name : Providing road and construction of drain and covering slab at Agrahara layout in Ward no.65

Agency : Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010

Customer's Reference : BBMP/EE/BTP/WO/23/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 18-12-17

Sample ID No : 2017-12-18-01-01

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5, Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11, DETERMINATION OF DENSITY , Clause 6

Date of test : 19-12-17

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.55	—
2	Fineness by Air permeability method (m ² /kg, Min)	275.5	225m ² /kg, Min
3	Density (gm/cc)	3.11	—
4	Standard Consistency (%)	27.0%	Not specified
5	Initial Setting time	165 minutes	Not less than 30 minutes
6	Final Setting time	255 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.

R. Karthik Rechan

R KARTHIK RECHAN

Authorized Signatory

Quality Manager

Page 1/1

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2017-12-18-01 Date: 26-12-2017
Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address : Byatarayanapura Sub division, BBMP, Bangalore.
Project Name : Providing road and construction of drain and covering slab at Agrahara layout in Ward no.05
Agency : Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010
Customer's Reference : BBMP/EE/BTP/WO/23/2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 18-12-2017
Sample ID No : 2017-12-18-01-01
Sample Type : Birla Super 53grade
Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test : 19-12-2017

Compressive Strength			
Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	29.5N/mm ²	Not less than 27 N/mm ²
2	7 Days	39.5N/mm ²	Not less than 37 N/mm ²

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate

AS per NABL
ಆವೇಶಿತವಾಗಿರುವ
ಪರೀಕ್ಷಾಫಲವು
ಪ್ರಾಥಮಿಕವಾಗಿ
ಪರಿಶೀಲಿಸಲ್ಪಟ್ಟಿದೆ
ಮಾನ್ಯತೆಯನ್ನು
ಪಡೆಯುತ್ತದೆ
ಪಿ.ಬಿ.ಎಂ.ಪಿ. ಪಟ್ಟಣದೊಳಗೆ
ಪ್ರಾಥಮಿಕವಾಗಿ
ಪರಿಶೀಲಿಸಲ್ಪಟ್ಟಿದೆ
ಮಾನ್ಯತೆಯನ್ನು
ಪಡೆಯುತ್ತದೆ



FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager



CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2017-12-18-01 Date: 21-12-17
Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address : Byatarayanapura Sub division, BBMP, Bangalore.
Project Name : Providing road and construction of drain and covering slab at Agrahara layout in Ward no. 5
Agency : Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010
Customer's Reference : BBMP/EE/BTP/WO/23/2017-18
Source of Sample : Sample supplied by Agency
Sample condition : Satisfactory
Date of Receipt : 18-12-17
Sample ID No : 2017-12-18-01-02(a)
Sample Type : 40mm down size coarse aggregate
Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties
Date of test : 18-12-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	322	322	2.1	97.9	90-100
3	20 mm	5643	5965	39.8	60.2	30-70
4	10 mm	4663	10628	70.9	29.1	10-35
5	4.75 mm	4025	14653	97.7	2.3	0-5
6	Pan	347	15000	100.0	0	---

AK Ward no 5
ಶ್ರೀ. ಶೇಷ
ಇಂಜಿನಿಯರ್ ಆಫ್ ಸಿವಿಲ್ ಎಂಜಿನಿಯರಿಂಗ್
ಬಿ.ಟಿ.ಎಸ್. ರೋಡ್ ಬೆಂಗಳೂರು-24

Page 1/2



[Handwritten signature]

TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2017-12-18-01

Date: 21-12-17

Sample ID No : 2017-12-18-01-02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.6	
3	Specific Gravity	2.68	—
4	Bulk Density(Loose) (Kg/l)	1.49	—
5	Bulk Density(Compacted) (Kg/l)	1.52	—
6	Water Absorption(%)	0.21	—

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.



R KARTHIK RECHAN

Authorized Signatory

Quality Manager

Page 2/2

****End of Report****


ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬ್ಯಾಟಲಿಯನ್‌ನವರು ಉಪ ವಿಭಾಗ
ಆಲ್ವಾಡ್ ನಂ 5
ಹತ್ತಿರವರ್ಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬೆಂಗಳೂರು-24
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟಲಿಯನ್‌ನವರು ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬೆಂಗಳೂರು-24

TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2017-12-18-01 Date: 21-12-17

Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.

Address : Byatarayanapura Sub division, BBMP, Bangalore.

Project Name : Providing road and construction of drain and covering slab at Agrahara layout in Ward no.05

Agency : Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010

Customer Reference : BBMP/EE/BTP/WO/23/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 18-12-17

Sample ID No : 2017-12-18-01-02(b)

Sample Type/ Size : 20mm down size coarse aggregate

Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties

Date of test : 18-12-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	243	243	4.9	95.1	90-100
3	10 mm	2544	2787	55.7	44.3	25-55
4	4.75 mm	1768	4555	91.1	8.9	0-10
5	Pan	445	5000	100	0	-

CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2017-12-18-01

Date: 21-12-17

Sample ID No : 2017-12-18-01-02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.65	—
4	Bulk Density(Loose) (Kg/l)	1.47	—
5	Bulk Density(Compacted) (Kg/l)	1.49	—
6	Water Absorption(%)	0.2	—
7	Aggregate crushing Value(%)	22.4	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	21.8	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate

Handwritten notes in Kannada:
 ಹೀಗೆ ಮಾಡಿದರೆ ಸರಿಯಾಗುತ್ತದೆ - 24
 ಬಿ.ಬಿ.ಎಂ.ಸಿ.ಯವರಿಗೆ ಸಲ್ಲಿಸುವ ವಿಭಾಗ
 21.12.17
 ಬಿ.ಬಿ.ಎಂ.ಸಿ.ಯವರಿಗೆ ಸಲ್ಲಿಸುವ ವಿಭಾಗ
 ಬ್ಯಾಟರಿಯನುಮರಣದ ವಿಭಾಗ
 ಬಿ.ಬಿ.ಎಂ.ಸಿ., ಬೆಂಗಳೂರು-24



FOR CIVIL Pro.

R KARTHIK RECHAN
 Authorized Signature
 Quality Manager

Page 2/2
 End of Report

CP/TF/01

TEST REPORT OF FINE AGGREGATE

Lab ID : CP-2017-12-18-01 Date: 21-12-17

Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.

Address : Byatarayanapura Sub division, BBMP, Bangalore.

Project Name : Providing road and construction of drain and covering slab at Agrahara layout in Ward no. 05

Agency : Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010

Customer's Reference : BBMP/EE/BTP/WO/23/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 18-12-17

Sample ID No : 2017-12-18-01-03

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption

Date of test : 18-12-17

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	86	86	8.6	91.4	90-100	90-100	90-100	95-100
3	2.36 mm	144	230	23.0	77.0	60-95	75-100	85-100	95-100
4	1.18 mm	175	405	40.5	59.5	30-70	55-90	75-100	90-100
5	600 micron	179	584	58.4	41.6	15-34	35-59	60-79	80-100
6	300 micron	185	769	76.9	23.1	5-20	8-30	12-40	15-50
7	150 micron	142	911	91.1	8.9	0-10	0-10	0-10	0-15
8	Pan	89	1000	100.0	0.0	---	---	---	---

Result : The tested Sample Conforms to Grading Zone II

Page 1/2



[Signature]

TEST REPORT OF FINE AGGREGATE

Lab ID : CP-2017-12-18-01

Date: 21-12-17

Sample ID No : 2017-12-18-01-03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.75	—
2	Specific Gravity	2.56	—
3	Material finer than 75 micron(%)	7.7	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate

Handwritten signature and stamp in Kannada script.



FOR CIVIL Pro.

Handwritten signature of R. Karthik Rechan

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Handwritten notes in Kannada script.

Page 2/2

****End of Report****



TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID : CP-2017-12-18-01 Date: 21-12-17
Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address : Byatarayanapura Sub division, BBMP, Bangalore.
Project Name : Providing road and construction of drain and covering slab at Agrahara layout in Ward no.05
Agency : Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010
Customer's Reference : BBMP/EE/BTP/WO/23/2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 18-12-17
Sample ID No : 2017-12-18-01-04
Sample Type/Size : Solid concrete blocks of size (400X200X200)mm
Reference to BIS codes : IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification
Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex - C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test : 18-12-17

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10 ⁶	Avg. Block Density in (Kg/cum)	As per IS 2185 (Part 1):2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm ³)	Kg	Kg/m ³	Kg/m ³	
1	404	200	201	16241	31.480	1938.3	1942.3	Not less than 1800Kg/m ³
2	402	201	201	16241	32.180	1981.4		
3	401	202	203	16443	31.36	1907.1		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg. Water Absorption	As per IS 2185 (Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.720	31.730	6.27	5.82	Shall not be more than 10% by mass
2	33.260	31.560	5.39		
3	33.310	31.480	5.81		

AS per IS 2185
Part 1:2005
RA 2010
2017-12-18-01-04
2017-12-18-01-04
2017-12-18-01-04



R. N. N. N.

Lab ID : CP-2017-12-18-01

Date: 21-12-17

Sample ID No : 2017-12-18-01-04

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	401	200	200	Length : $\pm 5\text{mm}$ Breadth : $\pm 3\text{mm}$ Height : $\pm 3\text{mm}$
2	402	201	202	
3	401	203	203	
4	403	202	202	
5	400	200	201	
6	401	201	200	
7	402	203	201	
8	402	201	203	
9	403	200	201	
10	401	203	203	
11	401	202	202	
12	400	203	200	
13	401	202	203	
14	402	201	201	
15	403	200	202	
16	400	201	203	
17	401	200	201	
18	401	203	202	
19	402	201	200	
20	403	203	201	
Average of 20	402	202	202	

Page 2/3

AF-Ward No 5
ಸರ್ಕಾರಿ
ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ ಅಭಿಯಂತರ
ಬೃಹದ್ವಿಜಯನಗರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಸಿ., ಬೆಂಗಳೂರು-24



[Signature]



ID : CP-2017-12-18-01
Sample ID No : 2017-12-18-01-04

Date: 21-12-17

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm ²)	(KN)	N/mm ²	(N/mm ²)
1	401	200	80200	321.5	4.0	4.3
2	402	201	80802	335.2	4.1	
3	401	203	81403	386.5	4.7	
4	403	202	81406	337.8	4.1	
5	400	200	80000	335.5	4.2	
6	401	201	80601	343.5	4.3	
7	402	203	81606	349.9	4.3	
8	402	201	80802	362.1	4.5	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	Minimum average	Minimum Individual units.
C (5.0)	5.00 N/mm ²	4.00 N/mm ²
C (4.0)	4.00 N/mm ²	3.20 N/mm ²

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate

Handwritten signature and notes in Kannada script.



FOR CIVIL Pro.
Signature
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

TEST REPORT OF PRECAST COVER SLAB

Lab ID	:	CP-2017-12-18-01	Date: 22-12-17
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.	
Address	:	Byatarayanapura Sub division, BBMP, Bangalore.	
Project Name	:	Providing road and construction of drain and covering slab at Agrahara layout in Ward no. 75	
Agency	:	Executive Engineer, KRIDL, #280, 59th cross road, 17th 'C' main road, 3rd 'Y' block, Rajajinagara, Bangalore-560010	
Customer's Reference	:	BBMP/EE/BTP/WO/23/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	18-12-17	
Sample ID No	:	2017-12-18-01-05	
Sample Type /Size	:	Precast Cover Slab 100mm Thick	
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete	
Date of test	:	18/12/2017	

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(mm)	(Sq.mm)	(KN)	(N/mm ²)	(N/mm ²)	(N/mm ²)
1	Cover Slab-1	75.38	100.44	1.316	4462	76.9	17.2	16.0	20.0
2	Cover Slab-2	75.62	100.62	1.322	4490	75.7	16.9	15.7	19.6
3	Cover Slab-3	75.24	100.39	1.318	4445	78.5	17.7	16.4	20.5

Note:

The results pertain to the samples received and tested.
All information furnished by the Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

M : 9972924526 | Tel : +91 80 23424801 | e : rechan6630



FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com